

# ANALGESIC MEDICATIONS

This TCCC pharmacology reference provides drug administration information based solely on TCCC Guidelines. This reference should not be used for the administration of these medications for any environment outside of tactical combat casualty care on the battlefield or in the combat/tactical setting.

## ACETAMINOPHEN

Non-narcotic analgesic and antipyretic

Used by All Service Members (ASM),  
Combat Lifesavers (CLS) and  
Combat Medics (CM)

For **mild to moderate** pain management with a casualty that is still able to fight.

**DOSAGE(S):** 500 mg, 2 PO every 8 hours

**ROUTE(S):** PO

**CONTRA-INDICATIONS:** Acetaminophen hypersensitivity, use with alcohol, considered relatively safe in pregnancy, if clinically indicated

**POTENTIAL SIDE EFFECTS:** Rash, nausea, vomiting, dizziness, lethargy, diaphoresis, chills or abdominal pain with acute poisoning, elevated LFTs, hypoglycemia and hepatorenal failure with hepatic toxicity

**DRUG INTERACTIONS:** Cholestyramine may decrease absorption, barbiturates, carbamazepine, phenytoin, rifampin, and excessive alcohol use may increase potential for hepatotoxicity

**ONSET / PEAK / DURATION:** 20-45 min/1-2 hr/3-4 hr

**TACTICAL CONSIDERATIONS:** Minimal to no mission impact;  
**DO NOT** give to K-9 casualties.



## MELOXICAM

COX-2 inhibitor non-steroidal anti-inflammatory agent (NSAIA) for analgesia and fever reduction

Used by All Service Members (ASM),  
Combat Lifesavers (CLS) and  
Combat Medics (CM)

For **mild to moderate** pain management in a casualty that is still able to fight.

**DOSAGE(S):** 15 mg po daily

**ROUTE(S):** PO

**CONTRA-INDICATIONS:** NSAIA or salicylate hypersensitivity, asthma, severe renal or hepatic disease, potential benefits may warrant use of the drug in pregnant women despite potential risks if the alternative is worse

**POTENTIAL SIDE EFFECTS:** Edema, flu-like syndrome, abdominal pain, diarrhea, dyspepsia, nausea, ulceration, GI bleed, anemia, headache or insomnia

**DRUG INTERACTIONS:** Decreased effect of ACE inhibitors and diuretics, increased lithium levels and toxicity, increased GI bleed risk with aspirin and warfarin

**ONSET / PEAK / DURATION:** 30-60 min/5-6 hr/20-24 hr

**TACTICAL CONSIDERATIONS:** Minimal to no mission impact;  
**DO NOT** give to K-9 casualties.



## FENTANYL

Potent narcotic (opiate) agonist

Used by Combat Medics (CM)

For **mild to moderate** pain management in a casualty that **IS NOT** in shock or in respiratory distress and **IS NOT** at significant risk of developing either condition.

**DOSAGE(S):** 800 mcg transmucosal, may repeat after 15 min;

**ROUTE(S):** Transmucosal – between the cheek and gum (CM)

**CONTRA-INDICATIONS:** Fentanyl allergy, significant hypotension, MAO inhibitors, myasthenia gravis, potential benefits may warrant use in pregnant women despite potential risks if the alternative is worse

**POTENTIAL SIDE EFFECTS:** Sedation, euphoria, bradycardia, hypotension, circulatory depression, miosis, blurred vision, nausea, vomiting, laryngospasm, bronchoconstriction or respiratory depression

**DRUG INTERACTIONS:** Alcohol and other CNS depressants potentiate effects, MAOIs may precipitate hypertensive crisis

**ONSET / PEAK / DURATION:** 15-60 sec (<transmucosal)/20 sec to 4 min/1-2 hr

**TACTICAL CONSIDERATIONS:** Casualty weapons, communications and sensitive equipment should be secured; alterations in mental status can adversely affect assessment for shock and/or traumatic brain injury – use AVPU method to establish baseline prior to medication administration; monitor airway, breathing, and circulation closely – be prepared to administer naloxone, if indicated.



## KETAMINE

Nonbarbiturate anesthetic

Used by Combat Medics (CM)

For **moderate to severe** pain management in a casualty that **IS** in hemorrhagic shock or in respiratory distress or **IS** at significant risk of developing either condition.

**PAIN MANAGEMENT DOSAGE(S):** 50-100 mg (0.5-1 mg/kg) IN, repeat q 20-30 min prn;  
50-100 mg (0.5-1 mg/kg) IM, repeat q 20-30 min prn;  
20-30 mg (or 0.3-0.3 mg/kg) slow IV or IO push, repeat q 20 min prn

**ROUTE(S):** IN, IM, IO & IV

**CONTRA-INDICATIONS:** Head injury (may worsen severe TBI), hypersensitivity to ketamine, considered relatively safe in pregnancy, if clinically indicated

**POTENTIAL SIDE EFFECTS:** Edema, flu-like syndrome, abdominal pain, diarrhea, dyspepsia, nausea, ulceration, GI bleed, anemia, headache or insomnia

**DRUG INTERACTIONS:** Effects of ketamine are increased when combined with other analgesics or muscle relaxants

**ONSET / PEAK / DURATION:** 30 sec-4 min (IV<IO<IN<IM)/1-10 min/5-25 min

**TACTICAL CONSIDERATIONS:** Casualty weapons, communications and sensitive equipment should be secured; IV ketamine should be administered slowly over 1 minute; alterations in mental status can adversely affect assessment for shock and/or traumatic brain injury – use AVPU method to establish baseline prior to medication administration; eye injury does not preclude the use of ketamine; medication end points include control of pain or development of nystagmus; increased secretions (be prepared to suction) monitor airway, breathing, and circulation closely – be prepared to support respirations, if indicated.



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